Macrosteles punctifrons, Fallén, var. *repleta*, Fieber.
= *Cicadula punctifrons*, var. Americana, Van Duz.
Aconura, *Lethierry*.
= *Athysanella*, Baker.
Agallia 4-punctata, Prov.
= *Ulopa Canadensis*, Van Duz
Callipterus punctipennis, Zett.
= *Aphis betulicola*, Kalt.

Dr. Horváth's work serves to make one thing very evident, and that is the danger American Hemipterologists incur in identifying our American forms with European species, being guided only by the more or less imperfect early descriptions. It has always seemed to me that the simplest solution of the problem is to describe the American species in hand as new, and leave it to some monographer to determine the synonymy. This, of course, when the European species is not in hand for minute comparison, because if comparison be possible, there should be no room for doubt. On the other hand, certain entomologists, and they not the least eminent, have a surprising faculty for labelling things "var.," or for off-handedly declaring their identity with other and more familiar forms. Hemipterology, as the least studied branch of Entomology, has been a great sufferer from this lack of discrimination.

(To be continued)

COCCIDÆ FROM THE SOCIETY ISLANDS.

BY R. W. DOANE AND EVELYN HADDEN, STANFORD UNIVERSITY, CALIF.

During the summer of 1908 the senior author spent a few weeks on some of the islands of this group studying the scale insects infesting the cocoanut tree. An annotated list of these will appear in an early number of the Jour. Eco. Ento. The following is a list of a few other species taken on various plants, most of which we have been unable to have identified. Miss Hadden is responsible for the identifications of these insects, and should be credited with the new species of *Parlatoria*. Prof. T. D. A. Cockerell kindly examined the new species of *Aspidiotus* and pointed out some of the important characters, so that species should be credited to Cockerell and Hadden. These are the first Coccidæ recorded from these islands.

August, 1909

Icerya Ægyptiaca (Dougl.).

One of the most abundant species; on Accacia locust, guava, roses, bora and many other wild and cultivated plants. Tahiti.

Pseudococcus pandani (Ckll.).

A very common species on pandanus and cocoanut trees. On the latter it does considerable damage to the young trees by attacking the new leaves before they are unfolded. Tahiti, Morea, Tetioroa.

Eucalymnatus tessellatus (Sign.).

Common on a reed-like grass and on a low shrub in wet places. Tahiti, Tetioroa.

Coccus frontalis (Green).

Quite abundant on three different species of low shrubby plants. Tahiti, Tetioroa.

Coccus longulus (Dougl.).

Several specimens on a common wild legume. Tahiti.

Saissetia hemisphærica (Toig.).

Very abundant on a common legume. Tahiti.

Saissetia nigra (Neitn.).

Quite common on four different low bushes. Tahiti.

Saissetia oleæ (Bern.).

A few specimens on the same species of legume that *S. hemisphærica* and *C. longulus* were found on. Tahiti.

Diaspis Boisduvalii (Sign.).

Very abundant on cultivated roses. Tahiti.

Hemichionaspis aspidistræ (Sign.).

One of the most abundant scales on the cocoanut trees, being particularly abundant on the fruit. Occasionally found also on the grass and shrubs near cocoanut trees. Tahiti, Morea, Tetioroa, Flint Island, Ræatea Tahaa Huaheine.

Aspidiotus cydoniæ (Comst.).

Quite abundant on guava everywhere. Tahiti.

Aspidiotus destructor (Sign.).

The most abundant and destructive scale on the cocoanut trees, causing the so-called "blight." Its chalcid parasite is now controlling it quite effectively in many parts of the Islands. Same distribution as *H. Aspidistræ.*

Aspidiotus rapax (Comst.).

Two specimens of what seem to be this species on a weed from Flint Island.

Aspidiotus herculeanus, n. sp. (Fig. 8).

Female puparium: Scales extremely inconspicuous, resembling the bark and often covered, with the bark, by a green mould. Exuviæ indicated by a white ring with a dot in the centre. Exuviæ pale yellow in colour, not noticeable with the insect in situ.

Fig. 8.—Aspidiotus herculeanus.

Male puparium (?)

Adult Female: Rather large, circular, dark brown in colour. Abdominal segments usually distinct.

Pygidium: *Median lobes* large, very close together, rounded at the apex, and strongly notched on the outer side. *Second lobes* represented by very small, inconspicuous processes; no other lobes present. Median lobes strongly chitinized, the chitinized base projecting far into the pygidium. A long, narrow chitinized portion extending anterior to the base of the lobes, and two shorter curved ones across the pygidium, near the base.

Lobes followed by a series of large, strong spines, varying in number, but usually from 8–10. A single pair of spines some distance anterior to the first series.

A very large club-shaped gland opening at the outer base of each median lobe; these glands about 200 μ long, with a round club-shaped end; the tube swollen, fusiform. The second pair of claviform glands, close to the first, represented by a minute rudiment. Laterad of the second lobe is a pair of small fusiform glands.

No circumgenital glands. Anal orifice close to the base of the median lobes. Arranged in a somewhat regular row, laterad of the chitinized portion of the pygidium, and scattered irregularly at the bases of the lobes are a number of cylindrical, tubular spinnerets, suddenly

narrowing to a fine thread and opening by minute-oval pores upon the dorsal surface. Spinnerets conspicuous in some specimens, in others not visible or extremely inconspicuous.

Adult male not known. *Habitat*, on bark of (?).

Morganella Maskelli (Ckll.).

Very common on guava. Tahiti.

Chrysomphalus aonidum (Linn.).

Moderately abundant on guava. Tahiti.

Lepidosaphes Beckii (Newm.).

Very abundant on orange and lemon trees. Tahiti.

Lepidosaphes Gloverii (Pack.).

A very abundant scale on cocoanut trees. Tahiti, Morea, Tetioroa.

Parlatoria cinerea, n. sp. (Fig. 9.)

Female puparium: Circular, slightly convex, pale brownish-gray, paler at margin. Pellicles overlapping, yellowish-brown, submarginal.

Male puparium: Elongate, semi-transparent, pale brownish-white. Pellicles at the anterior extremity; brown.

Adult female: Rounded in front, slightly pointed behind; broadest across abdominal segments. Abdominal segments moderately distinct, colour dull brown.

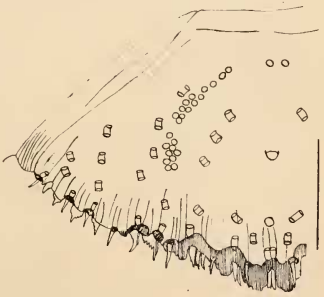

Fig. 9.—Parlatoria cinerea.

Pygidium with six prominent, strongly-chitinized lobes. The median lobes largest, broad at the base, with the inner sides nearly parallel; a single notch on the inner, two notches on the outer margin. Second pair of lobes rounded at the posterior end, the outer margin slanted with two, usually distinct, notches; the inner margin straight. Third pair of lobes resembling the second, but much shorter. Fourth lobe occasionally developed into a weakly-chitinized crenate projection. Depressions between the lobes strongly chitinized. Two chitinized depressions between the third and fourth lobes.

Two plates between the median lobes, not noticeably fringed; two between the first and second lobes, three between the second and third.

Toward the anterior the plates on the margin become broader and the lateral fringing more marked. The rudimentary lobes appear to form the bases of the plates.

Marginal spines situated at the base of each lobe and at intervals between the squames. Semi-lunar pores opening in depressions between the lobes. Dorsal pores rather numerous.

Circumgenital glands in four groups, occasionally five. Anterior laterals 10–14. Posterior laterals 9–12. Anterior group, when present, 1–2. Anal aperature some distance below genital aperature.

Adult male not known.

Habitat: Abundant on bark of orange tree and on a cultivated vine.

BOOK NOTICE.

Bulletin 171. Ontario Agricultural College.

A most compact and useful publication has just been issued by the Ontario Department of Agriculture, as Bulletin 171, entitled, Insects Affecting Vegetables, by Rev. Prof. Bethune, and Fungus Diseases Affecting Vegetables, by Messrs. J. W. Eastham and J. E. Howitt, of the Ontario Agricultural College.

Though the work consists of but 64 pages, including the index, the grower of vegetables will readily find more information about his most dreaded pests and the best means of combating them than in more pretentious volumes. The first part, dealing with insects, begins by calling attention to a number of kinds of general feeders, such as aphids, cutworms, grasshoppers, which attack almost anything that comes in their way; and then the various vegetables are treated of in alphabetical order, with their special enemies. The attacks of fungus diseases often follow in the wake of insect injuries, and these are referred to in a well-illustrated chapter arranged in the same order as the insects, with treatment recommended for each, but, as the authors say, "Generally speaking, in combating fungus diseases, methods of prevention only are practicable, as once a fungus is within a plant nothing can be done to destroy it." The remaining chapters are devoted to Insecticides and Fungicides, how to manufacture and apply them to the best advantage.

The Bulletin should be read and preserved for ready reference by everyone interested in the growing of vegetables. A. F. W.

Mailed August 9th, 1909.